The Behavioural Responses of Dugongs to Two Noise Sources: Boats and Pingers

Amanda Hodgson

James Cook University

Abstract

The objectives of this project were to determine the risk disturbance from boats and pingers (acoustic alarms) through direct observations of dugong (*Dugong dugon*) behaviour. To observe dugongs I developed the blimp-cam; this consists of a helium-filled balloon (blimp) with a mounted video camera. I assessed the behavioural responses of dugongs to opportunistic and experimental boat passes in Moreton Bay, Australia. The feeding and travelling behaviour during 4.5 min focal follows was not affected by the experimental boat passing, the number of passes made, whether the pass was continuous or included a stop and restart, or the individual's position in the herd in relation to these three factors. However, individual dugongs were significantly less likely to remain feeding if a boat passed within 50 m. Feeding herds often responded to boats by performing mass movements, which on average lasted 2 min. During the time of year my study was conducted, boat traffic may disturb dugongs for 0.8 to 6 % of the time they spend feeding. This level of disturbance presents minimal risk of displacing dugongs from my study site where seagrass beds are large enough for dugongs to move and recommence feeding immediately. The response to an array of two 10 kHz pingers (acoustic alarms designed to reduce entanglement in fishing nets) was also observed. Pinger noise did not significantly affect the rate of dugong movement away from the focal arena surrounding the pingers, the orientation of these dugongs, or the presence or absence of feeding plumes. The results from these pinger experiments suggest dugongs are unlikely to be displaced from important habitat areas by pingers.